# MEDICAL NUMISMATIC NOTES, VII: MITHRIDATES IV

THE city of New York has a thousand troubles, myriad detractors, and innumerable advantages. If it is true, as journalists and novelists assure us, that in the Place de l'Opéra or the Rue de la Paix you will sooner or later see everyone, it is equally true that in the windows of New York shops you will sooner or later see everything. Recently a dealer's window about a mile from the New York Academy of Medicine contained a coin on which there was a portrait of Mithridates IV, king of Parthia. The monarch's name recalls at once the complexities of ancient history and an entire chapter of pharmacology.

The coin, a thin irregular and almost circular disc measuring 19.5 mm. in maximum diameter, shows the profile and left face of a man who has a long straight nose, a large eye, a long pointed beard, and carefully waved hair. A triple diadem encircles his head. A beaded line arches over the upper half of the portrait.

The reverse of the coin portrays a figure that is thought to be Arsaces, founder of the Parthian line. He is seated and is holding a bow. The inscription is discussed in Wroth's authoritative catalogue,[1] which lists the coin under Mithridates IV. Seaby's numismatic catalogue[2] attributes the coin to Mithridates VI of Parthia and gives its date as "ca. 116 A.D."

The name Mithridates was frequent among royal personages of the ancient Middle East. To augment the confusion, two kings were known as Mithridates the Great. The empire of *Parthia*—a country situated to the southeast of the Caspian Sea in what is now Persia—had as its reputed founder Mithridates I, of the Arsacid dynasty. The fourth of this name reigned in the second century of the Christian era and is the monarch handsomely portrayed on the coin.

In *Pontus*, a district that nowadays is northeastern Turkey, there was another series of kings named Mithridates. Of these the most famous, Mithridates VI Eupator, called the Great, reigned from 120 to 63 B.C.

1. Wroth, W.: *Catalogue of the Coins of Parthia.* London, Briitsh Museum, 1903, pp. 217 ff. and Plate XXXIII. See also Gardner, R.: *The Coinage of Parthia.* Reprint edition. San Diego, Malter-Westerfield, 1968, page 55 and Plate VI, no. 22.

2. Seaby, H. A.: *Greek Coins and Their Values.* Second edition. London, Seaby, 1966. Item 2600, page 185.

Coin of Mithridates IV of Parthia. Author's collection. The original measures approximately 19.5 × 19 mm. Photographs by American Numismatic Society.

This outstandingly capable enemy waged three wars against Rome. He was celebrated in Roman literature not only because of martial and political success but also because of his adventures with drugs. The tale is worth recounting.

Justin the historian makes the vague statement[3] that the hostile guardians of this Mithridates in his youth "tried to cut him off by poison. He, however, being on his guard against such treachery, frequently took antidotes, and so fortified himself by exquisite preventives (*exquisitioribus remediis*), against their malice, that when he was an old man, and wished to die by poison, he was unable."

Poisons seem often to have occupied the king's thoughts and to have accompanied his person. Plutarch[4] says that during an action near the Euphrates in the third Mithridatic war the king "gave each of his friends a deadly poison to carry with them, that no one of them might fall into the hands of the enemy against his will." Plutarch says also that Mithridates Eupator had poisoned his son Ariarathes and many others.[5]

Appian[6] wrote that on his last day the king took out some poison that he always carried in the sheath of his sword and mixed it. Two of his daughters insisted on taking some of the mixture first:

> The drug took effect on them at once; but upon Mithridates, although he walked about rapidly to hasten its action, it had no effect, because he had accustomed himself to other drugs by continually trying them as a means of protection against poisoners; and these are still called "Mithridatic drugs."

Unable to terminate his life by means of drugs, Mithridates appealed to a loyal officer, who dispatched him with a sword.

Dio Cassius[7] says briefly that "the poison, although deadly, did not prevail over him, since he had inured his constitution to it, taking precautionary antidotes in large doses every day."

Overlooking a brief allusion by Juvenal[8] and a characteristically tart epigram by Martial,[9] we must note the statements of Celsus and Pliny.

3. Justin XXXVII. 2. Translation by J. S. Watson, London, Bell, 1910, p. 250.
4. Plutarch: Pompey, BK. XXXII. In: *Plutarch's Lives*, with translation by B. Perrin. Loeb Classical Library, vol. 5, p. 201. Cambridge, Harvard University Press, 1948.
5. Plutarch: Pompey, BK. XXXVII. Loeb edition, vol. 5, p. 213.
6. Appian: *Roman History*. With translation by Horace White, BK. XII, chap. XVI, sect. 111. (vol. 2 p. 455). Loeb Classical Library. London, Heinemann, 1912.
7. Dio: *Roman History*. With translation by E. Cary. Book XXXVII, sect. 13. Loeb Classical Library. vol. 3, p. 121. Cambridge, Harvard University Press, 1961.
8. Juvenal: *Satires XIV* pp. 252-53.
9. Martial V. LXXVI.

Celsus[10] lists the ingredients, *36* in all, through which "by daily ingestion the king is said to have made his body safe against the dangers of poisons." Pliny[11] complains that the Mithridatic antidote is composed of *54* ingredients, no two of which had the same weight. "Which of the gods, in the name of Truth, fixed these absurd proportions? No human brain could be sharp enough. It is plainly a showy parade of the art, and a colossal boast of science."

Aulus Gellius amplified the record by some curious remarks. Quoting a statement no longer extant, written by a learned freedman of Pompey's named Lenaeus, Gellius says[12] that the ducks of Pontus live by eating poison. Mithridates mixed the blood of these ducks with drugs that were active against poisons; "the blood was the very most powerful agency in their preparation; furthermore, that the king himself by the constant use of such remedies guarded against hidden plots at banquets; nay more, that he often voluntarily and wittingly, to show his immunity,[13] drank a swift and rapid poison, which yet did him no harm. . . . The most celebrated antidote of this king is the one which is called 'Mithridatian.' "

As might be expected, the verbose and voluminous Galen, interested in pharmacology, has much to say about Mithridates and mithridates. In the opening chapter of *De Antidotis*[14] he says that the monarch, zealous to have empirical or experimental knowledge of almost all the simple drugs which are used to combat poisons, tested them in condemned criminals. Mithridates found some drugs to be effective against spiders, some against scorpions, and some against vipers. Others counteracted lethal poisons such as those of aconite and of sea slugs. Mixing all these together, Mithridates created a single medicament, hoping that he would have protection against all lethal substances. Subsequently Andromachus, Nero's archiater, by adding several ingredients and removing others, prepared the antidote that is called theriac, having added to the other substances a considerable amount of the flesh of vipers; this was absent from the original mithridate. And for this reason, says Galen, theriac is better for viper bites than the mithridate.

10. Celsus V. 23.3.

11. Pliny: *Natural History,* XXIX. VIII, par. 24 et seq. Translation by W. H. S. Jones, Loeb Classical Library. Cambridge, Harvard University Press, 1963, vol. 8, pp. 198 ff.

12. Aulus Gellius: *Noctes Atticae* XVII. XVII. Translation by J. C. Rolfe. Loeb Classical Library. London, Heinemann, 1928, vol. 3, pp. 263-64.

13. The Latin author says: *ostentandi gratia,* for the sake of show. Immunity is a translator's anachronism.

14. Galen: *De Antidotis.* I. I. Kühn, vol. 14, pp. 2 ff.

In the second book of *De Antidotis*[15] Galen gives much additional detail, including recipes for the mithridatic antidote, for the antidote called panacea, and others. In the more famous *De Theriaca ad Pisonem*[16] Galen describes the dramatic death of Mithridates in terms resembling those used by Appian.

In pharmacology, as in many other branches of medicine, the Galenic influence did not really ebb until the 18th century. The fortunes of the mithridate are thought to have received a crippling blow from William Heberden, who in 1745 published his *Antitheriaka: An Essay on Mithridatium and Theriaca.*

A few excerpts will describe the tenor of Heberden's delightful essay:

> . . . there is some reason to suspect that Mithridates was as much a stranger to his own antidote, as several eminent physicians have since been to the medicines that are daily advertised under their names. . . .
>
> I forebear to mention the unreasonable number of ingredients, their contradictory effects even according to the Antients themselves, the inconsiderable portion of many of them in the quantity of a dose. . . .
>
> And there cannot surely be a stronger proof of any medicine's insignificancy, than it's losing ground so remarkably after a tryal of near two thousand years with a constant prepossession in it's favour.

The story of Mithridates VI Eupator of Pontus suggests that the idea of preventive medication—alexipharmacy—may have originated in the Middle East or perhaps even in the Far East, and that its origins may be revealed to us ultimately by orientalists. But another possibility exists. In a recent article, "The Herbal as a Medical Document,"[17] Professor Jerry Stannard has called attention to the physician of Mithridates VI, a Greek named Crateuas, who wrote on pharmacology and who is mentioned repeatedly by Galen and Dioscorides.[18] It is therefore pos-

15. Galen: *De Antidotis* II. Kühn, vol. 14, pp. 106 ff.
16. Galen: *De Theriaca ad Pisonem,* XVI. Kühn XIV, pp. 283-84.
17. Stannard, J.: *Bull. Hist. Med. 43*:212-20, 1969.
18. For the 10 extant fragments of Crateuas and 32 concomitant *testimonia* see Max Wellmann, editor: *Pedanii Dioscuridis Anazarbei De Materia Medica Libri Quinque.* Berlin, Weidmann, 1906-1914, vol. 3, pp. 139-146. See also Wellmann, M.: *Krateuas.* Abhandlungen der königlichen Gesellschaft der Wissenschaften zu Göttingen, philologischhistorische Klasse, neue Folge, *2,* no. 1, 1897, pp. 1-32.

sible that the scientific interests and experiments of Mithridates had their origin in Greek medicine and not in Oriental lore. Whatever its source, the concept of the mithridate merged with that of the antidote—a therapeutic and not a preventive measure—and gained durable importance through the writings of Galen.

It would be interesting to discover whether anything analogous to the experiments of Mithridates happened in the herbal gardens of Montezuma.

ACKNOWLEDGMENT

I thank Mrs. Richard North and the staff of the American Numismatic Society for assistance and information.

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